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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/812,562	03/21/2001	Tadahiro Uehara	826.1705/JDH	2631

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EXAMINER	
ZHEN, LI B	

ART UNIT	PAPER NUMBER
2126	

DATE MAILED: 03/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/812,562	UEHARA ET AL.	
	Examiner	Art Unit	
	Li B. Zhen	2126	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 10-18* is/are rejected.

7)☒ Claim(s) *7-9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1 – 18 are pending in the application.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 6, 2004 has been entered.

Allowable Subject Matter

3. Claims 7 – 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claim 16 is rejected under 35 U.S.C. 101 because the claim is directed to non-statutory subject matter.

6. Claim 16 is non-statutory because it is not tangibly embodied. Claim 16 recites "a propagating signal" [line 1]. A signal is incapable of being touched or perceived absent the tangible medium through which they are conveyed; therefore, claim 16 is non-statutory.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. **Claims 1 – 6 and 10 – 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent NO. 6,016,495 to McKeehan [cited in the previous office action] in view of U.S. Patent No. 6,785,690 to Davidson.**

9. As to claim 1, McKeehan teaches the invention substantially as claimed including an object managing apparatus managing an object [object-oriented framework mechanism for persistent storage environment; col. 2, lines 55 – 67] used by an application program including one or more components [application programs 822, objects 824, Fig. 8; col. 15, line 65 – col. 16, line 12], in a component base that is a base for configuring and executing the application program [PersistentContainer is an extensible abstract class that allows a framework consumer to define a new type of persistent container through appropriate subclassing; col. 18, lines 48 – 67] and

provides each component with an external storage access function [method 900 for handling requests to access persistent objects; col. 17, lines 38 – 65], comprising:

a selecting device [ContainerClassConfig] selecting an object managing method [CacheManager; col. 20, lines 13 – 29] suitable for a type of a component [ContainerClassConfig is an abstract extensible class that defines configuration data for classes within a container. It is used to determine which classes a container supports; col. 20, lines 40 – 60], from a plurality of object managing methods that are prepared in advance [a class definition defines how an object acts and reacts to other objects by defining an operation or set of operations that is/are performed on the defined data; col. 6, lines 36 – 50], each object managing method representing an algorithm for managing an object used in the apparatus [CacheManager object manages the in-memory objects that are owned by a corresponding persistent container. CacheManager defines methods getCachedEntity(), putCachedEntity(), and removeCachedEntity() that retrieve, store, and delete, respectively, cached entities in the cache; col. 20, lines 13 – 30] and including an accessing method to data stored in an external storage [retrieve, store, and delete, respectively, cached entities in the cache; col. 20, lines 13 – 30]; and

an object caching part that caches a persistence object corresponding to data of the external storage [CachedEntityInstance class is a core class that is used to define an in-memory copy of objects stored in a particular persistent container; col. 20, lines 13 – 28] using a specified algorithm [Extending the framework to accommodate a specific type of persistent storage system defines a "persistent storage environment; col. 17, lines 13 – 23] and an object persistence processing part performing conversion

[mapping] between the data of the external storage and the persistence object [configuration object contains the class name of the schema mapping class that provides the logic necessary for performing the transformation from object schema to relational schema; col. 20, lines 40 – 60].

10. Although McKeehan teaches the invention substantially, McKeehan does not specifically teach switching an object caching part and an object persistence processing part.

However, Davidson teaches switching [Modifications can be effected simply and easily by modifying the handler object instance itself, or by replacing the object with another; col. 3, lines 18 – 30] an object caching part [object instances (01, 02, ..., 0N); col. 4, lines 8 – 42] and an object persistence processing part [holds "handler lists" that are associated with specific ones of the class specifiers. As will be seen, each handler list delineates the collateral activity to be executed when particular operations of the storage manager 20 are performed or requested on an object instance; Fig. 4; col. 4, lines 32 – 42].

11. It would have been obvious to a person of ordinary skill in the art at the time of the invention to apply the teaching of switching an object caching part and an object persistence processing part as taught by Davidson to the invention of McKeehan because this allows behavior native to data items of a particular form to be made readily available by the member functions declared in the class specifier for object instances that represent the data items merely by calling the member function to act on the data item [col. 3, lines 8 – 18 of Davidson].

12. As to claim 13, this is rejected for the same reasons as claim 1 above. As to the additional limitations, McKeehan teaches a storing device [main memory 820, Fig. 8] storing schedule information [configuration data] for selecting an object managing method suitable for a type of a component [ContainerClassConfig is an abstract extensible class that defines configuration data for classes within a container. It is used to determine which classes a container supports; col. 20, lines 40 – 60].

13. As to claim 14, this is a product claim that corresponds to apparatus claim 1; note the rejection to claim 1 above, which also meets this product claim.

14. As to claim 15, this is rejected for the same reasons as claim 1 above. As to the additional limitations, McKeehan teaches managing an object used by the application program using the part corresponding to the selected object managing method [PersistentContainer class provides all the necessary interfaces required by the factory for managing the lifecycle of persistent objects; col. 18, lines 47 – 67].

15. As to claims 16 and 17, these are rejected for the same reasons as claim 1 above.

16. As to claim 18, McKeehan as modified teaches a processing method for application program units [col. 2, lines 55 – 67 of McKeehan] that have corresponding

persistent objects, corresponding persistent object caches for persistent object data and corresponding persistent object processes for controlling communication of the persistent object data between the caches and storage where the persistent object caches [col. 17, lines 38 – 65 of McKeehan] and persistent object processes can reside in a component base associated with applications [col. 18, lines 48 – 67 of McKeehan], said method comprising:

selecting a first object managing method [CacheManager; col. 20, lines 13 – 29 of McKeehan] suitable for a first one of the program units [col. 20, lines 40 – 60 of Mckeehan];

automatically switching [Modifications can be effected simply and easily by modifying the handler object instance itself, or by replacing the object with another; col. 3, lines 18 – 30 of Davidson] a persistent object cache [object instances (01, 02, ..., 0N); col. 4, lines 8 – 42 of Davidson] and a persistent object process corresponding to the first object managing method into the component base providing a persistent object cache and a persistent object process in the component base corresponding to the first one of the program [holds "handler lists" that are associated with specific ones of the class specifiers. As will be seen, each handler list delineates the collateral activity to be executed when particular operations of the storage manager 20 are performed or requested on an object instance; Fig. 4; col. 4, lines 32 – 42 of Davidson].

17. As to claim 2, Mckeehan teaches the switching device automatically, generates a program of the part corresponding to tie selected object managing method, and incorporates the program in the object managing apparatus [PersistentContainer passes the ResourceConfig object that is referenced by the ContainerConfig object. The ResourceConfig class contains both a resource type...and a Resource class; col. 21, lines 1 – 30].

18. As to claim 3, McKeehan teaches the switching device [ContainerClassConfig] selects the part corresponding to the selected object managing method from a part group that is prepared in advance [a class definition defines how an object acts and reacts to other objects by defining an operation or set of operations that is/are performed on the defined data; col. 6, lines 36 – 50], and incorporates the selected part in the object managing apparatus [PersistentContainer passes the ResourceConfig object that is referenced by the ContainerConfig object; col. 21, lines 1 – 30].

19. As to claim 4, Mckeehan teaches the selecting device selects the object managing method that is designated by a user [would allow a common user interface for defining virtually any type of persistent storage system; col. 17, lines 23 – 38].

20. As to claim 5, Mckeehan teaches the selecting device selects the object managing method that is designated by the application program [common user interface

would greatly ease the burden of programming and maintaining persistent storage systems; col. 17, lines 23 – 38].

21. As to claim 6, Mckeehan teaches the selecting device includes an input device inputting usage information in for component, and selects the object managing method based on the usage information [capability to define new persistent storage systems using a simple, easy to use user interface defined by the framework; col. 17, lines 23 – 38].

22. As to claim 10, Mckeehan teaches the switching device uses the object caching part that caches all data of the external storage in advance before the application program requests [CachedEntityInstance class is a core class that is used to define an in-memory copy of objects stored in a particular persistent container; col. 20, lines 13 – 28], an object to be processed, as the part corresponding to the selected object managing method [ContainerClassConfig is an abstract extensible class that defines configuration data for classes within a container; col. 20, lines 40 – 60].

23. As to claim 11, Mckeehan teaches the switching device uses an object caching part that registers an interface related to the persistence object, and reuses the interface together with the persistence object [PersistentContainer is responsible for creating, initializing and registering a Resource object to the corresponding

TransactionManager; col. 20, lines 57 – 67], as the part corresponding to the selected object managing method.

24. As to claim 12, McKeehan teaches a designating device designating one or more data items suitable for the type of the component [ContainerStoreConfig objects would define the table or set of tables occupied by this class in the relational database over which the container is defined; col. 20, lines 50 – 60], wherein the switching device uses an object persistence processing part that performs conversion between data of the external storage and the persistence object regarding designated data items of the persistence object [configuration object contains the class name of the schema mapping class that provides the logic necessary for performing the transformation from object schema to relational schema; col. 20, lines 40 – 60], as the part corresponding to the selected object managing method.

Response to Arguments

25. In response to the Final Action dated June 7, 2004, applicant argues:

(1) there is no disclosure or suggestion concerning switching or substituting CacheManagers [p. 7, lines 29 – 31];

(2) there is no disclosure or suggestion concerning switching or substituting one PersistentContainer for another [p. 8, lines 1 – 2]; and

(3) a method in McKeehan is a function that is used by a number of different objects, whereas a method of the of the present invention corresponds to a particular component and not several components [p. 8, lines 5 – 7].

As to arguments (1) and (2), arguments are moot in view of the new grounds of rejection.

In response to argument (3), examiner respectfully disagrees and notes that the methods in a class of McKeehan perform the data managing method of the present invention [e.g., col. 20, lines 13 - 30]. The method of McKeehan also corresponds to a particular component, the component being an instance of the class that the method belongs to. In addition, McKeehan also describes defining specific steps and their order needed to provide a variety of different persistent storage environments [e.g., col. 18, lines 9 - 20]. The specific steps implemented by the class perform the object managing algorithm.

Conclusion

26. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6,470,354 to Aldridge et al. teaches persistent object service that interfaces to a set of one or more relational database management systems.

U.S. Patent No. 6,513,040 to Becker et al. teaches a method and apparatus for a general container mechanism for storage of object-oriented Java Beans.

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Li B. Zhen whose telephone number is (571) 272-3768. The examiner can normally be reached on Mon - Fri, 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Li B. Zhen
Examiner
Art Unit 2126

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